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Reply to Office action of September 9, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Cancel claims 58-81, amend claims 48 and 49 and add claims 82-113 as follows:

2. (Canceled)

8. (Amended) A bottle cap comprising:

a top portion having an inner surface;

an annular wall extending from the top portion; and

a groove formed on the inner surface of the top portion, said groove extending chordwise from a first point adjacent a first location on the annular wall to a second point adjacent a second location different from the first location on the annular wall.

18. (Third Amendment) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the

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outer surface of the bottle neck and the inner surface of the annular wall; and

a groove formed on the inner surface of the top portion wherein when the cap is threaded onto the bottle neck, the groove extends outwardly beyond two locations of the rim of the bottle neck providing a pathway for gas generated in the bottle to escape across the bottle neck mouth and through the gas path.

22. (Twice Amended) A method for venting gases generated in a bottle having a rim defining a mouth and containing a liquid, the method comprising [the steps of]:

providing a cap having a top portion, a plurality of circular ridges formed on an inner surface of the top portion and a slot formed across each of said plurality of ridges; and

torquing the cap on the bottle causing the plurality of ridges to sit on the rim, wherein the plurality of slots provide a pathway for the [vending] venting of gases.

23. (Amended) A method as recited in claim 22 further comprising [the steps of]:

venting gas in the bottle through at least one of the slots

forcing liquid in the slot after venting; and

solidifying the liquid to block the pathway through at least one of said slots.

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24. (Amended) A method for venting gases generated in a bottle having a rim defining a mouth and containing a liquid the method comprising [the steps]:

providing a cap having a top portion and a groove formed on an inner surface of the top portion; and

torquing the cap on the bottle causing the inner surface of the top portion to sit on the rim, wherein the groove extends outwardly beyond two locations of the rim and provides a pathway for the venting of gases.

25. (Twice Amended) A method as recited in claim 24 further comprising [the steps of]:

venting gas in the bottle through the groove;

forcing liquid in the groove after venting; and

solidifying the liquid to block the pathway through the groove.

26. (Twice Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

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a disc made of a material being at least [semi hard] semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a circular ridge formed on the second surface of the disc;
and

a [slot] plurality of slots formed across the ridge, wherein when the cap is threaded onto the bottle neck, the ridge sits on the bottle neck rim and the [slot forms a pathway] slots form pathways for any gas generated in the bottle to escape across the bottle neck rim [and through the gas path].

27. (Amended) A vented bottle cap system [as recited in claim 26] comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

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a circular ridge formed on the second surface of the disc;
and

a plurality of concentric ridges formed in the second surface of the disc, wherein when the cap is threaded onto the bottle neck, the plurality of ridges contact the bottle neck rim; and

at least a slot in each ridge.

29. (Amended) A vented bottle cap system [as recited in claim 26 further] comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a circular ridge formed on the second surface of the disc;
a slot formed across the ridge; and

a liner fitted in the cap over the disc and having a hole through its thickness, wherein when the cap is threaded onto the bottle neck, the liner is sandwiched between the ridge and the

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rim and wherein gases generated in the bottle escape through the hole, through the slot and through the gas path.

30. (Amended) A vented bottle cap system as recited in claim [26] 27 wherein the disc is made from plastic.

31. (Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and having threads formed on the bottle neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck outer surface, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least [semi hard] semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface; and

a first set of parallel grooves and a second set of parallel grooves formed on the second surface of the disc, wherein grooves of the first set intersect grooves of the second set,

wherein when the cap is threaded onto the bottle neck, the grooves extend radially beyond the rim of the bottle neck providing pathways for gas generated in the bottle to escape across the bottle neck mouth.

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32. (Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck outer surface, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made from a material being at least [semi hard] semi-hard fitted over the top portion inner surface, the disc having a circumferential edge and a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a gap between the annular wall and the circumferential edge;

an opening formed through the thickness of the disc, the opening located within the bottle mouth when the cap is threaded onto the bottle neck;

a circular ridge formed on the first surface of the disc; and

a slot formed across the ridge, wherein when the cap is threaded onto the bottle neck, the ridge is located over the bottle neck rim and the opening and slot form a pathway for gas generated in the bottle to escape across the bottle neck and through the gas path.

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35. (Amended) An insert having an annular section for use with cap for capping a bottle having a rim defining a bottle mouth and having an inner and an outer diameter, the insert allowing for the venting of gases generated in a bottle when the cap is [threaded on] capping the bottle, the [disc defining] annular section forming an [a central] opening and comprising:

a first surface opposite a second surface;

a circular ridge formed on the first surface of the annular section; and

a slot formed across the ridge.

37. (Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth [and threads formed on the neck outer surface];

a cap having a top portion having an inner surface and an annular wall extending from the top portion, [the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck,] wherein when the cap is [threaded onto] capping the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a venting member having an annular section [having a central] defining an opening and made of a material being at least [semi hard] semi-hard, the annular section having a first surface opposite a second surface and sandwiched between the cap inner surface and the rim wherein the first surface faces the cap top portion inner surface;

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a circular ridge formed on the first surface of the annular section; and

a slot formed across the ridge, wherein when the cap is [threaded onto] capping the bottle neck, the slot forms a pathway for gas generated in the bottle to escape through the opening and across the bottle neck rim and through the gas path.

40. (Twice Amended) A vented bottle cap system as recited in claim 37 [therein] wherein the [insert] venting member is made from plastic.

41. (New) An insert as recited in claim 35 wherein the insert opening is located centrally through the insert.

42. (New) An insert as recited in claim 37 wherein the venting member opening is defined centrally in the venting member.

43. - 47 (Canceled)

48. (New) An insert having an annular section for use with a cap for capping a bottle having a rim defining a bottle mouth, the insert allowing for the venting of gases generated in a bottle when the cap is capping the bottle, the annular section defining an opening and comprising:

a first surface opposite a second surface; and

a groove formed on the first surface, wherein when the cap is capping the bottle, the groove extends beyond two

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locations external of the rim, and wherein the insert opening extends through an entire thickness of the insert.

49. (New) An insert having an annular section for use with a cap for capping a bottle having a rim defining a bottle mouth, the insert allowing for the venting of gases generated in a bottle when the cap is capping the bottle, the annular section defining an opening and comprising:

a first surface opposite a second surface; and

a groove formed on the first surface, wherein when the cap is capping the bottle, the groove extends beyond two locations external of the rim, wherein the opening extends through an entire thickness of the insert, and wherein the insert is made of plastic.

50. - 56. (Canceled)

57. (New) A bottle cap as recited in claim 8 wherein the groove is linear.

58. - 81. (Canceled)

82. (New) A vented bottle cap system comprising:
a bottle having a neck having a rim defining a mouth;
a cap having a top portion having an inner surface and an annular wall having an inner surface and extending from the top portion, the annular wall surrounding the rim; and

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an insert having an annular section, the annular section being sandwiched between the rim and the cap, the insert allowing for the venting of gases generated in the bottle, the annular section defining an opening and comprising,

a first surface opposite a second surface, and
a groove formed on the first surface, wherein the groove extends beyond two locations external of the rim, and wherein the insert opening extends through the entire insert.

83. (New) A system as recited in claim 82 wherein the insert is made of plastic.

84. (New) An insert having an annular section for use with a cap for capping a bottle having a rim defining a bottle mouth, the insert allowing for the venting of gases generated in a bottle when the cap is capping the bottle, the annular section defining an opening and comprising:

a first surface opposite a second surface; and
a non-linear path formed on the first surface, wherein when the cap is capping the bottle, the path extends beyond two locations of the rim, wherein the insert opening extends through the entire insert, and wherein said path provides a passage for the venting of gases.

85. (New) An insert as recited in claim 84 wherein when the cap is capping the bottle the path extends beyond two locations external of the rim.

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86. (New) An insert as recited in claim 84 wherein the insert is made of plastic.

87. (New) A vented bottle cap system comprising:
a bottle having a neck having a rim defining a mouth;
a cap having a top portion having an inner surface and
an annular wall having an inner surface and extending from the
top portion, wherein when the cap is capping the bottle neck a
first gas path is formed between the outer surface of the bottle
neck and the inner surface of the annular wall;

a venting member sandwiched between the cap inner
surface and the rim, the venting member having an annular
section defining an opening extending through the entire venting
member, the annular section having a first surface opposite a
second surface; and

a second non-linear gas path defined across the first
surface, wherein gas in the bottle escapes via the second gas
path to the first gas path.

88. (New) A system as recite in claim 87 wherein the first gas path extends to the opening.

89. (New) A system as recited in claim 87 wherein the venting member further comprises a third non-linear gas path defined across the first surface, wherein gas from the bottle escapes via the third non-linear gas path to the first gas path.

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90. (New) A system as recited in claim 89 wherein both the second and third non-linear gas paths extend to the opening.

91. (New) A system as recited in claim 87 wherein the first surface faces the inner surface.

92. (New) A system as recited in claim 87 wherein the second non-linear gas path extends beyond two locations of the rim.

93. (New) A system as recited in claim 87 wherein the second non-linear gas path extends beyond two locations external of the rim.

94. (New) A vented bottle cap system comprising:
a bottle having a rim defining a mouth;
a cap capping the bottle and having a top portion and an annular wall extending from the top portion and surrounding the rim, the top portion having an inner surface, wherein a first gas path is defined between the annular wall and the rim; and
a second non-linear gas path formed on the cap inner surface, wherein gas formed in the bottle escape via the second gas path to the first gas path.

95. (New) A vented bottle cap system comprising a third non-linear gas path formed on the inner surface, wherein gas formed on in the bottle escape via the third gas path to the first gas path.

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96. (New) A vented bottle cap system comprising:
a bottle having a rim defining a mouth;
a cap capping the bottle and having a top portion and an
annular wall extending from the top portion and surrounding the
rim, the top portion having an inner surface;
a first groove on the inner surface extending from a
location external of the rim to a location at least under the
rim; and
a second groove on the inner surface connected to the first
groove and extending at an angle relative to the first groove,
wherein said first and second grooves define a path for gas
generated inside the bottle to travel.

97. (New) A system as recited in claim 96 further
comprising a third groove on the inner surface connected to the
second groove and extending at an angle relative to the second
groove wherein the first, second and third grooves define a
path.

98. (New) A system as recited in claim 97 further
comprising a fourth groove on the inner surface connected to the
third groove and extending at an angle relative to the third
groove wherein the first, second, third and fourth grooves
define a path.

99. (New) A system as recited in claim 98 further
comprising a fifth groove on the inner surface connected to the
fourth groove and extending at an angle relative to the fourth

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groove wherein the first, second, third, fourth and fifth grooves define a path.

100. (New) A system as recited in claim 99 wherein at least two of said grooves are perpendicular to each other.

101. (New) A vented bottle cap system comprising:
a bottle having a rim defining a mouth;
a cap capping the bottle and having a top portion and an annular wall extending from the top portion and surrounding the rim, the top portion having an inner surface; and
a plurality of grooves on the inner surface, wherein the plurality of grooves are connected to each other, wherein each groove extends at an angle relative to another groove, wherein one groove extends to a location external of the rim and another groove extends to a location internal of the rim, and wherein said grooves define a path through which gas generated in the bottle escapes.

102. (New) A system as recited in claim 101 wherein said plurality of grooves are connected sequentially.

103. (New) A system as recited in claim 101 wherein said plurality of grooves comprises at least three grooves.

104. (New) A vented bottle cap system comprising:
a bottle having a rim defining a mouth;

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a cap capping the bottle and having a top portion and an annular wall extending from the top portion and surrounding the rim, the top portion having an inner surface;

an insert between the inner surface and the rim, the cap having a first surface opposite as second surface;

a first groove on the first surface extending from a location external of the rim to a location at least under the rim; and

a second groove on the first surface connected to the first groove and extending at an angle relative to the first groove, wherein said first and second grooves define a path for gas generated inside the bottle to travel.

105. (New) A system as recited in claim 104 further comprising a third groove on the first surface connected to the second groove and extending at an angle relative to the second groove wherein the first, second and third grooves define a path.

106. (New) A system as recited in claim 105 further comprising a fourth groove on the first surface connected to the third groove and extending at an angle relative to the third groove wherein the first, second, third and fourth grooves define a path.

107. (New) A system as recited in claim 106 further comprising a fifth groove on the first surface connected to the fourth groove and extending at an angle relative to the fourth

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groove wherein the first, second, third, fourth and fifth grooves define a path.

108. (New) A system as recited in claim 107 wherein at least two of said grooves are perpendicular to each other.

109. (New) A system as recited in claim 104 wherein the insert comprises an opening formed through the entire insert thickness, said opening being internal of the rim.

110. (New) A vented bottle cap system comprising:
a bottle having a rim defining a mouth;
a cap capping the bottle and having a top portion and an annular wall extending from the top portion and surrounding the rim, the top portion having an inner surface;
an insert between the inner surface and the rim; and
a plurality of grooves formed on the insert, wherein the plurality of grooves are connected to each other, wherein each groove extends at an angle relative to another groove, wherein one groove extends to a location external of the rim and another groove extends to a location internal of the rim, and wherein said grooves define a path through which gas generated in the bottle escapes.

111. (New) A system as recited in claim 110 wherein said plurality of grooves are connected sequentially.

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112. (New) A system as recited in claim 110 wherein the insert comprises an opening formed through the entire insert thickness, said opening being internal of the rim.

113. (New) A system as recited in claim 101 wherein said plurality of grooves comprises at least three grooves.